IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor	:	Leroy Braun	
Appln. No.	:	10/685,240	
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DECLARATION OF JUAN F. HERNANDEZ UNDER 37 C.F.R. 1.132

Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I, Juan F. Hernandez, state:

1 I am a person who is skilled in the art of audiometric systems.

2. I have 35 years of experience in the field of audiometric systems, including training, maintenance and sales related to audiometric systems.

3. I am currently the President of Audio Electronics, Inc. in Houston, Texas, a company that has provided sales, service and calibration of audiometric equipment throughout the state of Texas since 1971.

4. I have reviewed claims 6-21 of U.S. Application No. 10/685,240 (attached as Appendix A).

5. Based on my review, claims 6-21 of U.S. Application No. 10/685,240 are directed to an audiometer system having an output that is automatically switched from test tones, to instructions represented by sound waves produced by a computer in response to a detected error in responses to the test tones, and back to test tones after the instructions have been provided, under computer control without human intervention.

6. I have reviewed Japanese Publication No. JP 7 308310 ("the '310 publication) and the RION AA-75 Operating Manual ("the RION manual").

7. Based on my review, the '310 publication and the RION manual do not disclose a system that automatically switches from outputting test tones to outputting computer-generated instructions when an error is detected, and back to outputting test tones after the instructions have been provided. Rather, switching back to outputting test tones after interrupting a hearing test is performed in the '310 publication and the RION manual by a test administrator who must manually restart the test.

8. Based on my review, the '310 publication and the RION manual disclose a system in which a routine for handling errors is provided that involves providing a test tone at an increased volume level if the patient continued to press a response button after the test tone is discontinued. See paragraphs 62 and 63 of the '310 publication, and paragraph 8 of the RION manual. This routine does not involve switching from outputting test tones to outputting corrective instructions, and then switching back to outputting test tones after the corrective instructions have been delivered.

9. Based on my review, the '310 publication and the RION manual teach that whenever the system switches from outputting test tones to outputting a notification of an error condition, such as via a message on a display and/or an alarm, a human test administrator is required to manually resume testing by pressing a button that switches back to outputting test tones. See paragraphs 43, 65 and 75 of the '310 publication, and paragraph 9 of the RION manual.

10. In my experience, I have dealt with products by both Tremetrics and Maico that embody the invention described in claims 6-21 as discussed above in paragraph 5. These products include the Tremetrics HT Wizard Audiometer System, the Tremetrics RA300 Plus Audiometer System, the Tremetrics RA650 Audiometer System, and the Maico MA-1000 Audiometer System.

11. In my experience, products embodying the invention described in claims 6-21 and discussed above in paragraph 5, which deliver audible corrective instructions in response to a detected error and then automatically switch back to the delivery of test tones, have been significantly more successful commercially than products that require a human test administrator to deliver corrective instructions in response to an error condition (such as is described in the '310 publication and the RION manual). Audio Electronics, Inc. provides service and maintenance for at least 64 systems that embody the invention described in claims 6-21 and discussed above in paragraph 5 in the state of Texas alone.

12. In particular, the ability of products embodying the invention described in claims 6-21 and discussed above in paragraph 5 to deliver audible corrective instructions in response to a detected error and then automatically switch back to the delivery of test tones without intervention by a human test administrator has relieved nurses from the burdens associated with testing individuals who do not understand the English language. By automatically delivering audible corrective instructions in response to a detected error and automatically switching back to the delivery of test tones under computer control, the nurses do not have to explain testing procedures, errors, and instructions for avoiding further errors in a language other than English, and a testing facility that desires to provide testing services to patients who do not understand English does not have to ensure that its nurses are multilingual. This capability has allowed audiometric testing systems to be utilized to perform hearing tests for individuals who otherwise could not have been properly tested, and has contributed greatly to the commercial success of the products that embody the invention described in claims 6-21 and discussed above in paragraph 5.

13. As an expert in the field of audiometric systems, it is my opinion that the invention described in claims 6-21 and discussed above in paragraph 5 has been a tremendous benefit to the industrial hearing conservation world, by eliminating the previously required functions of a human test administrator to deliver instructions for taking a hearing test and for responding to errors that occur during the test, and replacing those functions with digital audible instructions that are delivered under computer control followed by automatic resumption of the hearing test by switching from delivery of the digital audible instructions to delivery of test tones. The system described by the '310 publication and the RION manual does not provide this benefit, as this system requires a human test administrator to provide an explanation of instructions for responding to an error to the patient and to manually resume testing.

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statement were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Juan F. Hernandez

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Date: 9-11-2006

APPENDIX A

6. A multimedia audiometer comprising:

audio circuitry capable of generating audible test tones for delivery to earphones worn by a test subject;

a computer selectively operable to produce instructions represented by sound waves for delivery to the earphones, the computer being operatively coupled to the audio circuitry;

microprocessor circuitry operatively coupled to the computer, the microprocessor circuitry including a central processing unit (CPU) and a memory;

an interface operatively coupled to the computer and the microprocessor circuitry for signaling whether the test subject perceives the audible test tones generated by the audio circuitry;

a switch having a first state in which audible test tones generated by the audio circuitry are provided to the earphones, and a second state in which the instructions represented by sound waves produced by the computer are provided to the earphones; and

software stored in at least one of the computer and the memory of the microprocessor circuitry, the software operating the computer, the microprocessor circuitry, the audio circuitry and the interface to generate the audible test tones for delivery to the earphones, monitor responses by the test subject, detect errors in the test subject's responses, selectively produce the instructions for delivery to the earphones in response to the detected errors, and to control the switch to switch to the second state when errors are detected in the test subject's responses and to automatically switch back to the first state following delivery of the instructions to the earphones so that testing is resumed without human intervention.

7. The multimedia audiometer of claim 6, wherein the responses of the test subject are compiled and stored in at least one of the computer and the memory of the microprocessor circuitry.

8. The multimedia audiometer of claim 7, wherein the software operates the computer, the microprocessor circuitry, the audio circuitry and the interface according to a pre-programmed logical testing procedure.

9. The multimedia audiometer of claim 8, wherein the logical testing procedure is the Hughson-Westlake procedure.

10. The multimedia audiometer of claim 6, wherein the software is stored in the computer.

11. The multimedia audiometer of claim 6, wherein the software is stored in the memory of the microprocessor circuitry.

12. A computer adapted to perform an audiometric test of a subject, comprising:
a test tone generator operable to deliver audible test tones to earphones worn by the subject;
an input/output interface; and
software programmed to control the test tone generator to deliver the audible test tones to the earphones worn by the subject, monitor responses by the subject received over the input/output interface, detect errors in the subject's responses, selectively deliver audible corrective instructions to the earphones in response to the detected errors, and automatically resume delivery of the audible test tones after the audible corrective instructions are delivered without human intervention.

13. The computer of claim 12, wherein the software is operable to compile the responses of the subject and store results of the audiometric test.

14. The computer of claim 13, wherein the software is operable to display and/or print the results of the audiometric test.

15. The multimedia audiometer of claim 6, wherein the switch comprises a relay circuit.

16. A method of performing an audiometric test of a subject, comprising:
controlling an audiometer to generate audible test tones in a headset worn by the subject;
monitoring responses to the audible test tones by the subject;
detecting errors in the subject's responses to the audible test tones;
storing the detected errors in a computer memory;
automatically producing selected audible corrective instructions in response to the detected errors and switching an input to the headset to the audible corrective instructions; and
automatically switching the input to the headset back to the audible test tones after the audible corrective instructions are produced.

17. The method of claim 16, wherein the steps of controlling the audiometer to generate audible test tones and monitoring the subject's responses are performed according to a logical testing procedure.

18. The method of claim 17, wherein the logical testing procedure is the Hughson-Westlake procedure.

19. The method of claim 16, wherein the step of automatically producing selected audible corrective instructions in response to the detected errors and switching the input to the headset to audible corrective instructions, and the step of automatically switching the input to the headset back to the audible test tones after the audible corrective instructions are produced are performed by a computer.

20. The method of claim 16, further comprising:
displaying and/or printing results of the audiometric test.

21. The method of claim 16, further comprising:
halting the audiometric test when a threshold number of errors is determined.